OPERATOR'S MANUAL



TM 9-1005-249-10

APRIL 1977

TM 9-1005-249-10
C I
HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC 20 March 1979

CHANGE

OPERATOR'S MANUAL M16A1 RIFLE

WARNING

DANGEROUS PROCEDURES

- Be sure the cam pin is installed in the bolt group. If it isn't, your rifle can still fire, but it could possibly explode, causing you harm.
- If you're using the blank ammo attachment, don't use any other ammo except the blank round, M200.
- DO NOT exchange or switch bolt assemblies from one M16A1 to another...It could cause damage to both you and the rifle.
- If your rifle stops firing with a live round in the chamber of a hot barrel, remove the round fast. However, during training, if you cannot remove it within 10 seconds, wait 15 minutes with the rifle pointing in a safe direction. This way you won't get hurt by a possible ammo cook-off, which could happen 10 seconds after contact with a hot chamber.
- Use only authorized ammo that is manufactured to U.S. specs.

- If your bolt fails to unlock and you try to free it by banging the butt stock on the ground, keep yourself clear of the muzzle.
- If there's water in the barrel, don't fire the rifle.
 It could explode.
- If a noticeable difference in sound or recoil is experienced, STOP FIRING. Either condition could indicate an incomplete propellant burn and a bullet still in the bore. Retract bult slowly and remove fired cartridge case. Clear weapon and check for unburned powder grains in the receiver or bore and for a bullet in the bore. Remove unburned propellant or bullet from bore before resuming firing, or barrel could explode. If bullet is lodged in bore, turn in rifle to direct support maintenance.

IF YOU GO BY ALL THE INSTRUCTIONS IN THIS BOOK, AND PERFORM PREVENTIVE MAINTENANCE (PM), YOUR MISA1 RIFLE WILL SHOOT, AND SHOOT AND SHOOT. IF YOU'VE DONE YOUR PART AND IT STOPS SHOOTING, TAKE YOUR MISA1 RIFLE TO YOUR SERGEANT. HE HAS THE ANSWERS.



The MIGAT rifle system consists of a rifle, one magazine and a sling. It is a lightweight, gas operated, air cooled, magazine fed, shoulder fired weapon that can be fired either automatic or semi-automatic.

Other features:

The barrel assembly has an adjustable sight and a flash suppressor.

Upper and lower receivers are easily opened for cleaning and inspection.

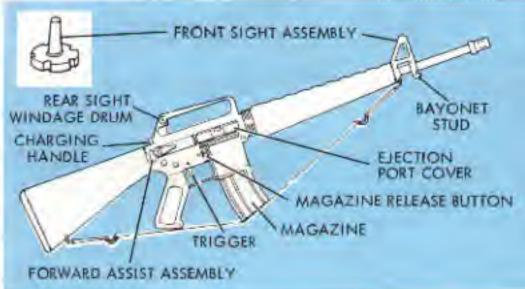
 Bolt group and barrel extension designed with locking lugs that lock bolt group to barrel extension.

An aluminum receiver reduces the weight of the rifle.

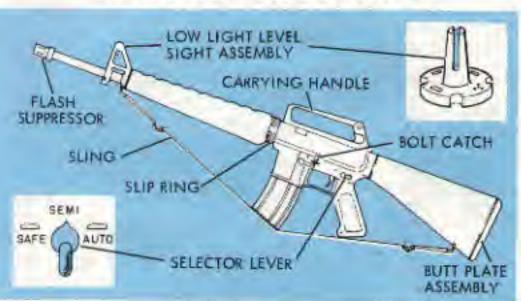
 Some rifles are equipped with the Low Light Level Sight to increase effectiveness during periods of limited visibility.



RIFLE PARTS AND



WHERE THEY ARE



ITEMS TROOP INSTALLED OR AUTHORIZED

Items which, at the discretion of the unit CO, may accompany the M16A1 rifle but are not subject to be turned in with the rifle

FOR RIFLE WITHOUT STOWAGE

SMALL ARMS MAINTHANCE EQUIPMENT CASE #465-00-781-9564





MAGAZINE ASSEMBLY 1005 On 000 7227 (20 RD) (ISSUED UNTIL STOCK EXHAUSTED)

rpres on 321 5004 (30 HD)



1009-00-401-5804



AUXILIARY EQUIPMENT





from your UNIT SUPPLY



M15A2 BLANK FIRING ATTACHMENT (BFA)



WARNING Use ONLY blank M200 with the 8FA.

1005-00-118-6192



Hook beford fine groove of CAUTION: Do not use tools to tighten attachment, HANDS ONLY

Unscrew and slide all the way back

flauri huppressor

3. Style may liash suppressor and HAND TIGHTEN

NOTE: After 50 rounds. check to see if it is still tight. Make sure to clean carbon buildup after each use







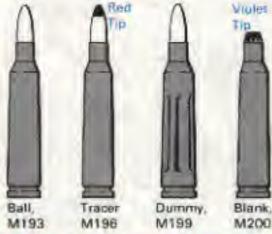
AMMUNITION

WARNING

DO NOT FIRE . . .

- Seriously corround ammunition
- Dentud cart idges
- · Cartridges with forsii fruitins
- Carrridges exposed to extreme hour (135*) until they have costed

Use only authorized amme that is manufactured to US speci-



KEEP DAY, CLEAN, AND FREE OF CRUD YOUR LIFE DEPENDS ON IT!

9

USE OF SELECTOR LEVER



safe

Rifle will not fire Selector lever cannot be on safe unless rifle is cocked. Always place in SAFE, when loading and unloading



semi-automatic

Rifle will fire one round each time the trigger is pulled



automatic

Rifle will continue to fire until the magazine is empty or the trigger is released

CLEAR YOUR RIFLE

I have been open pull done to my own to the condarises to my own to the condarises to drive cope km a multi-cold to engine or done carefully water many and named to total of they must award to the own own to the cold to your award to your to your



T Promo only for any Wall E to program to the program of the progr



A final of the count and Diameter to the pre-show and in the picture.



2 Remove manualine



2 Annual of the award sales alow and in an increase a low and in an increase a printing logic calter of actionals



DISASSEMBLY

first

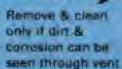
CLEAR YOUR RIFLE





2 Remove sling

NOTE -



holes.









Pivot upper receiver from lower receiver

5 Push receiver pivot pin





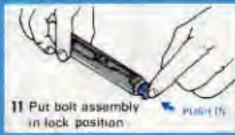
bolt carrier and bolt



Remove charging handle

DISASSEMBLY cont.











DISASSEMBLE STEPS 15 THRU 18 ONLY WHEN DIRTY OR DAMAGED



NOTE

freeze day at extractor to cheek soring function

See your ARMORER

Do not samage top at fixing pla-









CLEAN ... INSPECT... LUBE

With the rifle disassembled, thoroughly clean, inspect and lube, so you have a reliable weapon you can always depend on.

After firing, clean your weapon for 3 consecutive days with Rifle Bore Cleaner (RBC). Wipe dry and lube according to lubrication instructions.



Cleaning materials: swabs, pipe cleaners and RSC are expendable items that are available from Campany Supply.

If any parts are missing or defective see your ARMORER.

THOROUGH CLEANING upper receiver



CLEAN WITH RBC

- All Areas of Powder Fouling, Corrosion, Dirt & RUST
- Bore & Chamber
- Locking Lugs
- Gas Tube





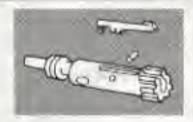
Use a worn here brush to get outside surface of protriiding gas to be (get sides and bottom from tottom of receiver)

THOROUGH CLEANING bolt carrier group

- Outer & Inner Surfaces of Bolt Carrier
- Carrier Key
- Firing Pin Recess and Firing Pin
- Firing Pin Hole (Use Pipe Cleaner Therel
- Carbon Deposits & Dirt from Locking Lugs
- Areas Behind Bolt Ring and Under Lip of Extractor







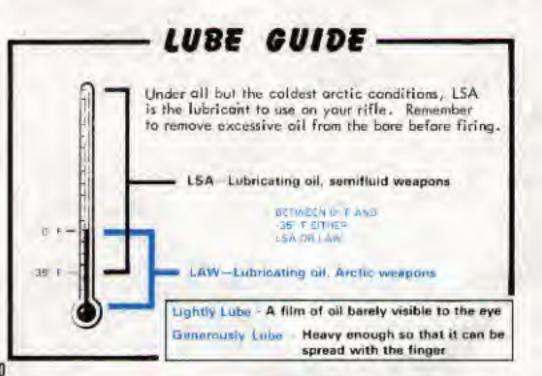
THOROUGH CLEANING lower receiver group

- All Areas of Powder Fouling, Corrosion and Dirt
- Wipe Dirt from Trigger Mechanism
- Clean Buffer and Inside Lower Receiver Extension

CAUTION

Do not use were brush or any type of abresive material to clean aluminum surfaces





LUBRICATING

upper receiver





LIGHTLY LUBE

BORE & CHAMBER, OUTER SURFACES OF BARREL AND FRONT SIGHT, SURFACES UNDER HANDGUARD, DEPRESS FRONT SIGHT DETENT SEVERAL TIMES TO WORK LUBE INTO THE SPRING





LUBRICATING

bolt carrier group

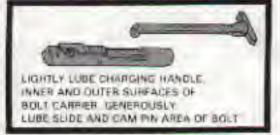


GENEROLISEY LUBE OUTSIDE OF THESE PARTS

MAKE CERTAIN TO GET CAM PIN AREA, PISTON HINGS, AND OUTSIDE OF THE BOLY BODY

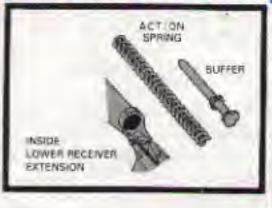






LUBRICATING

lower receiver group





INSPECT-before assembly

WARNING DO NOT interchange bottle



BOLT - Cracks or fractures, especially in the compin hole area. Bolts

that contain pits extending into



FIRING PIN RETAINING PIN -Bent, busted, badly worn



CAM PIN Cracked, chipped or missing





FIRING PIN Berill cracked or blunted end

EXTRACTOR AND EXTRACTOR SPRING-

Check extractor for chipped or broken edges in the area of the lip that engages the cartridge nim.

IF PARTS ARE MISSING OR DEFECTIVE, SEE YOUR ARMORER

ASSEMBLY





if the spring comes loose. put The large end of upring in the extractor and sees



2 Insurt extractor and spring





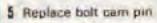


Slide bolt into carrier



ASSEMBLY cont.







TURK AFTER ASSESSED



Drop in and seat



7 Pull bolt back



NOTE

Firing pin should not fall out when bott carrier group is turned upside down

8 Replace retaining pin



9 Engage, then push charging handle part way



10 Slide in bolt carrier group



11 Push in charging handle and bolt carrier group together



12 Join upper and lower receivers



3 Engage receiver pivot pin

ASSEMBLY cont.

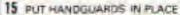


CAUTION on calls as semi before THE RED GROUP THE REST











CHECK FOR FULL ENBAGEMENT



16 Snap on sling

DID YOU INSTALL EVERYTHING?

- extractor & spring WORK SLICK IF YOU HAVE ASSEMBLED
- extractor pin
- · bolt
- · cam pin
- firing pin
- retaining pin

CHECK THE

CORRECTLY

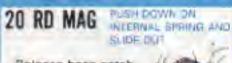
selector lever

BY PERFORMING THE

FUNCTIONAL CHECK

SEE PAGE 33

MAGAZINE DISASSEMBLY



30 RD MAG

PRY UP PUSH CLT

Release base catch



Release base catch



Remove base



Jiggle spring and follower to remove



NOTE DO NOT SETURE **EDITORIUM FAIRM** pring

MAGAZINE ASSEMBLY

If the special comes.

LOGST FROM THE

FOLLOWER FROM THE

THE PROCESS SENT

JULY TO AN IT YOUR

SOLE

Wipe dirt from tube; spring, and follower, then lightly lube spring

Jiggle spring and follower to install



Slide the base under all four tabs



MAKE SURE PROVING IS ON THE OUTSIDE

PMCS* before operation and ..



1 Remove excessive oil



2 Retract bon to assure free movement between bolt carrier and gas tube



4 Mag secure?



Proper tension?

3 Perform functional check to assure selector lever works properly

then back to step 4

 Preventive Maintenance Checks and Services

FUNCTIONAL CHECK

HEMOVE MAG

CHECK CHAMBER!



SELECTOR LEVER ON:

safe

Foll charging handle to rear and release. Placs an sale. Pull regge. Hammer Stood not fall.



semi

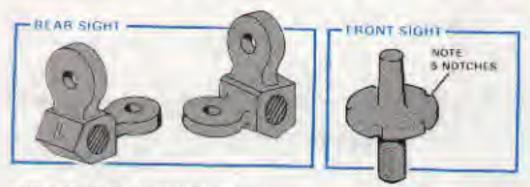
Place at a for in some Pull trigger and hold to rear. Hammer should fair Pulls harging handle to that and rehave Balayse tringer end but again Hahnmer Should fail



auto

Place selector in auto Pull charging i midle to rear and release. Pull ir uget and how to roor, harmour should fall. Pull charging handle to respond coloring Polyage trigger and pull again Harmer stroutd not fall

STANDARD DAYLIGHT SIGHT



REAR SIGHT. Has two aportures for range.

Unrealment aperture: 0 - 300 meter range.

Limiter apparent. 300 460 meter range.

See page 39 for sight usage

LOW LIGHT LEVEL SIGHT SYSTEM (Promethium Sight) NOTE: Not every tille will have this signt





PURPOSE

Lived during limited visitality. A wholean equipped with the PROMETHOM from sight has unity.

4. Institute of characters per resolution, who cannot be consent upto find 5. Dur 7 mm may signs exercise to limited exactly. The 2-ron aperture is used to zero the winagest and engage largest to 460 MJ under normal count to the used page 40 for anoth years.

CAUTION: The trant signif past contains a small grass vial of reproceive Promertium
16T. Take caus not to burns, above, temper or after the past in any manner
DD NCT blackers or sact-up the feast sight.

OPERATION - loading and











MAUSZINE MAY BE LOADED WITH BOLT ASSEMBLY OPEN DR CLOBED

chambering a round

BOLT ASSEMBLY OPEN



Omerate upper printers of bort cases



that travered essent to insure bolt is fully forward & locked

BOLT ASSEMBLY CLOSED



Pull charging temple fully (partward



Retouse Inc charging



Never "not the charging handle and a your its own



PAP toward assist to sure out turb. forward a vickent

BATTLESIGHT ZERO

TO ZERO THE RIFLE, YOU MUST HAVE THE FRONT SIGHT (ELEVATION) AND THE REAR SIGHT (WINDAGE) ADJUSTED SO THAT IT CAN HIT YOUR POINT OF AIM AT A GIVEN RANGE



NOTE.

In order to battlesight zero you adjust your sights so you can hit an aiming point at 250 meters. Zeroing can also be accomplished on a 25 meter range by adjusting the sights so that the bullet will strike 2.4 centimeters below the point of aim. If M16A1 has "promethium" sight and you can't see the vial after zeroing, turn front sight post one click down for use during periods of limited visibility.

SIGHT ADJUSTMENT

LOW LIGHT & STANDARD



The SILIHT To educat window depressionment and make drum to desired direction. To make primit of expect to right tork drum cinckwise in the close of arrow and letter B. To move felt, once drum chambersackwise Each graduation touth) moves the point of impact of build as indicated in charge.



deleter, rolate past. To adjust elevation, depressioned, rolate past. To raise stoke of buffet across post in the direction of across parked up. Reverse the correction of ratistion is lower strike of buffet. Facility graduation (putch) moves the point of invocat of Societies in registered in chart.

IAIP	ALT	1	DISTANCE
STAND/ARD	LOW FIGHT LEVEL	-	
7 M + (1-5 32 m)	1500 19 46	8.	Two entires

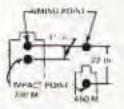
USING LOW LIGHT LEVEL (PROMETHIUM) SIGHT SYSTEM

daylight firing



Like Each Late marked L. Effective range is 200 masses liping not barries highly arms beyond secured from the late of the second secured and the second secured in the second second late of the second second late of the second second





night and limited visibility



Use unmarked (7 mm) apartice. Observing season to the process of t

ogh confliction, from auto most act but seen and seen auto distort for whether you are inseed through above, or in the sale of new auto-queries of Machine posteroming social against should have beening from the application.

CARE & CLEANING of PROMETHIUM SIGHT handling and care



- The front post has a small glass vial containing radioactive Promethium 147.
- Take care when handling, not to bump the front sight post.
 DO NOT abuse, tamper or after the post in any manner.
- Frequently check the sight post for damage. If damage is evident or suspected, have it checked by your unit armorer.

cleaning of front sight post

CAUTION: DO NOT use a wire byush to clean the sight.

Clean with toothbrush, bore swabs and Rifle Bore Cleaner (RSC), then dry.

IMMEDIATE ACTION

If your rite stops firing before you do . S.P.O.R.T.S. S.P.O.R.T.S. is an acronym* to help you remember the following actions — Slap, Pull, Observe, Re-lease, Tap, Shoot.

"ac-ro-nym: a word formed from the initial letters of each word in a group of words that convey a meaning or action.



BLAP upward on magazine to make sure it's properly septed.



2 RULL charging handle all the way back. OBSERVE ejection of cose or carridge. Eyeball chamber and check for obstruction.



If cartridge or case is ejected or cramber is clear. RELEASE charging handle to less new round (Den't ride the charging handle)



4 TAP forward assist



5 New SHOOT II It wan I have look for Irouble and apply remedial action

REMEDIAL ACTION

WARNING

If your rifle stops firing with a live round in the chamber of a not barrel, remove the round fast. However, during training, if you cannot remove it within 10 seconds, wait 15 minutes with the rifle pointing in a safe direction. This way you won't get burt by a possible arms cook-off, which could happen 10 seconds after contact with a hat chamber.

If your offer to is to tere after performing steps 1 thru 5; check again for jammed cert/ dige case.





If a certifidge case is in the skar ber, tap out with a cleaning sad,

PROJECTILE LODGED IN BORE

WARNING

If an audible "POP" or reduced RECOIL is experienced during firing, immediately CEASE FIRE, remove the magazine (1), lock the bolt to the rear (2), and place the selector lever on the "SAFE" position (3). Visually inspect and/or insert a cleaning rod into the bore to insure there is not a projectile lodged in the bore (4).

DO NOT APPLY IMMEDIATE ACTION.



If a projectile is lodged in the barrel of the weapon, DO NOT attempt to remove it. Turn the weapon in to the armorer.

LIMITED PM CLEANING

CLEAR YOUR RIFLE



1 Look for fouling in bore and chamber



Remove bolt carrier group and clean carbon and oil from firing pin and all surfaces of bolt/bolt carrier with dry swabs. Clean

firing pin hole and bolt carrier key with pipe cleaner. Apply light coating of LSA paying special attention to slide and cam pin area



3 "Swab out" (from chamber to muzzle) CAUTION: Den't bend or flex cleaning rod. Oh yeah, make sure swab goes clear through flash suppressor



After cleaning, apply a light cost of LSA Lightly lubricate lugs in barrel extension

UNUSUAL CONDITIONS

EXTREME COLD -

- Clean and lubricate rifle with LASV.
 Kéec I mountain from
- Operate servouls thru their entire range at intervals to keep their from friteeing and
- When your rills it not being used and sept curside protect it with a work



HOT CHIMATES

- a Inspect ritie and beard area frequently, especially the Indian surfaces of bull parties group, forward esset assemble and lewer receive not panents. Make carrain they are lubricated using LSA.
- b. When banding, make certain to wipe dry, as no sture could cause berrosion. After drying, labricate with LSA.

HOT, DRY CLIMATES

Clean and oil rifle more frequently with LSA

DUSTY AND SANDY AREAS

- a. Clean and Labrique your rifle more frequently
- b. Keep sand out of parts when inspecting, lubricating, or assemblying rifle.
 Apply only a very light amount of lubrication or autside of rifle.
- c. Use magazine bag and muzzle cap for dust and sand protection

CAUTION. Do not use magazine bag and muzzle cap on slured offes.

AFTER

FORDING

WARNING DO NOT FIFIE RIFLE IF WATER IS PRESENT IN BARREL

HERE'S WHAT YOU DO!



. . AFTER YOU REMOVE THE CAP

POINT THE MIZZEE DOWN



PULL CHARGING HANDLE 2 TO 3 INCHES REARWAND AND ALLOW WATER TO DRAIN



RELEASE CHARGING HANDI I AND STRIKE ECRIVARD ASSIST TO SEAT ROUND AND LOCK BOLT



CLEAR THE DRAIN HIGGE WITH A MINE CLEANEY AND DRAIN



PROBLEM	CHECK FOR	WHAT TO DO
WON'T FIRE	Selector lever on SAFE	Put It on SEMI or AUTO
	Improper assembly	Assemble correctly
	of firing pin	
	Too much all in firing pin recess	Wipe off
	Defective ammo	Remove and diseard
	Too much carbon on firing pin	Clean
BOLT WON'T UNLOCK	Dirty or burred bolt	See your NCO of your unit

PROBLEM	CHECK FOR	WHAT TO DO
WON'T EXTRACT	Broken extractor spring	See your ARMORER
	Dirty or correded	Remove Push out stuck round with cleaning rad
	Carbon in chamber Fouling or carbon in extractor recess or lip	Clean chamber Clean
WON'T FEED	Dirty or corroded	Clear
	Dirty magazine	Cistan
	Defective magazine	Replace
	Too many rounds in magazine	Take out excess
	Restricted buffer assembly action	Take out the buffer and spring, and clean

PROBLEM	CHECK FOR	WHAT TO DO
WON'T FEED	Magazine not fully seated	PRESS BUTTON ON RIGHT SIDE
		The constant of the state of the constant of t
	Defective magazine	Replace
DOUBLE FEED	Defective magazine	Replace

WON'T CHAMBER

Dirty or corroded ammo Damaged ammo Carbon in chamber

WONTLOCK

Dirt corrusion, ur carbon buildup in barrel locking lugs

Fruzini estractor

Restricted buffer assembly

Restricted ingrement at boit carrier group Claps

Replace



Clean lugs



Banrove and clean

Remove and clean

When outting bolt back in: make sure pay tube firs into carrier key and moves hursly.



WHAT TO BO CHECK FOR PROBLEM Gaps in bolt rings Stagger ring SHORT RECOIL (not staggered) DADE Clean Carbon or dirt in carrier key or on outside of gas tube Dirty or corroded Ciean BOLT FAILS TO LOCK AFTER LAST ROUND bolt latch Faulty magazine Replace SELECTOR LEVER Lubricate with LSA Needs oil BINDS

PROBLEM CHECK FOR Round jammed be-BOLT CARRIER "HUNG UP" tween bolt and charging handle

WHAT TO DD

1 Remove rangazing

2 Hold charging herdle back and barg rille butt on ground. KEEP CLEAR OF MUZZLE



CAUTION After round is removed.

3 While built
in held to
mer, push
charging
handle forword Bound
aboutd fall
through
magazine well



PROBLEM	CHECK FOR	WHAT 10 DO
PROMETHIUM SIGHT POST	Check for alignment of diamegous elements	Rates front sight post up or down one click
	Luminous element dirty	Clean with dry dearring sulverni
	Limenous element broken or missing	Tum in to ARMORER



SARGE'S INSPECTION



Sarge'll gig ya if the following items are not clean....

BOLT, SIGHTS, RECEIVER, CHARGING HANDLE, HANDGUARDS, GAS TUBE & PORTS, STOCK DRAIN HOLE, BORE & FLASH SUPPRESSOR, MAGAZINE CATCH & MAGAZINE WELL

He'll also check the overall condition of the SIGHTS, BIROD, STOCK, & HANDGUARDS

So, be prepared, keep it clean and lubed.

DID WE GOOF? OR YOU KNOW A BETTER WAY 7 OON'T KEEP THOSE GRIPES TO YOURSELF VE'D LIKE TO HAVE YOUR IDEAS THE PERSON PRINTS OF THE PERSON SE D.A. FORM 028 OR WHATEVER MILE OU HAVE HANDY COMMANDER US ARMY ARMAMENT MATERIEL READINESS COMMAND ATTN: DRSAR-MAS ROCK ISLAND, IL 61201 U.A. SCYNDMANNET PRINTED OFFICE .